

**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL SERVICES**

STATEMENT OF BASIS¹

PROPOSED PART 70 OPERATING PERMIT 2283-V3

**SHELL NORCO CHEMICAL PLANT – BOILERS EAST UNIT
SHELL CHEMICAL, L.P.
NORCO, ST. CHARLES PARISH, LOUISIANA
Agency Interest (AI) No. 26336
Activity No. PER20090010**

I. APPLICANT

The applicant is: Shell Chemical, L.P.
P.O. Box 10
Norco, LA 70079

Facility: Shell Norco Chemical Plant – East Site

SIC Code: 2869

Location: 15536 River Road
Norco, LA 70079

II. PERMITTING AUTHORITY

The permitting authority is: Louisiana Department of Environmental Quality
Office of Environmental Services
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313

III. CONTACT INFORMATION

Additional information may be obtained from:

Mr. Syed Quadri
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313
Phone: (225) 219-3181

IV. FACILITY BACKGROUND AND CURRENT PERMIT STATUS

The Boiler East is owned and operated by Shell Chemical LP as The Norco Chemical Plant – East Site under Part 70 Permit No. 2283-V2 dated January 8, 2009 and Prevention of Significant Deterioration (PSD) Permit Nos. PSD-LA-008 and 618 dated January 1,

¹ 40 CFR 70.7(a)(5) and LAC 33:III.531.A.4 require the permitting authority to “provide a statement that sets forth the legal and factual basis for the proposed permit conditions of any permit issued to a Part 70 source, including references to the applicable statutory or regulatory provisions.”

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1977 and January 1, 1997, respectively. These boilers are a part of an existing facility and produce steam for process heating and steam turbines

The Boiler East is presently operating under Permit No. 2283-V2, issued January 8, 2009.

This permit addresses the boilers at the Shell Norco Chemical Plant – East Site.

A number of Part 70 permits addressing other process units at the Shell Norco Chemical Plant – East Site have already been issued. These include:

Permit No.	Process Unit	Date Issued
2520-V2	Olefins	10/23/2001
2840-V0	Py Gas	1/8/2009
2889-V1	West Site	11/26/2007
3047-V1	Shell Shared	12/5/2007
3078-V0	GHT	9/1/2009

V. PROPOSED PERMIT/PROJECT INFORMATION

A permit application and Emission Inventory Questionnaire (EIQ) dated December 21, 2009 were received requesting a Part 70 permit renewal/modification.

Additional information as of February 12, 2010 was also received.

Process Description

The Boilers East Unit is comprised of Boiler Nos. 7, 8, 9, and 10. These boilers produce high pressure steam which is used for process heating and operating steam turbines. Letdown facilities for immediate pressure and low pressure steam supply also utilized. Boiler No. 7 is gas-fired and Boiler Nos. 8, 9, and 10 are capable of handling either liquid and/or gaseous fuel.

Proposed Modifications

The facility proposes the following modifications to the current permit:

1. Revise the specific requirements for the Boilers 7, 8, 9, and 10 to clarify that the Opacity and SO₂ CEMS are not required under the federal requirements due to the requirement 40 CFR 60.45(b) (see permit);

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2. Update the specific requirements for Boilers 7, 8, 9, and 10 to clarify that the initial performance testing and associated recordkeeping is not required under the federal requirements; and
3. Change the facility based totals for some toxic air pollutants due to round off errors.

VI. ATTAINMENT STATUS OF PARISH

<u>Pollutant</u>	<u>Attainment Status</u>	<u>Designation</u>
PM _{2.5}	Attainment	N/A
PM ₁₀	Attainment	N/A
SO ₂	Attainment	N/A
NO ₂	Attainment	N/A
CO	Attainment	N/A
Ozone ²	Attainment	N/A
Lead	Attainment	N/A

VII. PERMITTED AIR EMISSIONS

Sources of air emissions are listed on the “Inventories” page of the proposed permit.

Estimated emissions of criteria pollutants from the facility, in tons per year (TPY), are as follows:

Permitted emissions for the Boilers East Unit based on the above referenced modification in tons per year are as follows:

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
PM ₁₀	520.22	520.22	-
SO ₂	4305.83	4305.83	-
NO _x	2512.38	2512.38	-
CO	389.13	389.13	-
VOC	66.00	66.00	-

² VOC and NO_x are regulated as surrogates.

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PM₁₀ and VOC compounds classified as LAC 33:III.Chapter 51-regulated toxic air pollutants (TAP) are speciated below. This list encompasses all Hazardous Air Pollutants (HAP) regulated pursuant to Section 112 of the Clean Air Act. Note, however, all TAPs are not HAPs (e.g., ammonia, hydrogen sulfide).

*VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Benzene	0.01	0.01	-
Formaldehyde	0.56	0.57	+ 0.01
Naphthalene	0.08	0.09	+ 0.01
Polynuclear Aromatic Hydrocarbons	0.004	0.003	-
Total	0.654	0.674	+ 0.02
Other VOC		65.326	

Non VOC Toxic Air Pollutants (TAPs)

Arsenic (and compounds)	0.09	0.09	-
Beryllium (and compounds)	0.002	0.002	-
Cadmium (and compounds)	0.03	0.03	-
Chromium VI (and compounds)	0.02	0.03	-
Copper	0.12	0.12	-
Lead compounds	0.10	0.09	-
Manganese (and compounds)	0.21	0.21	-

Non VOC Toxic Air Pollutants (TAPs)

Mercury (and compounds)	0.01	0.01	-
Nickel (and compounds)	5.78	5.79	+ 0.01
Selenium	0.05	0.06	+ 0.01
Total	6.412	6.432	+ 0.02

Boilers East Unit is part of a major source of criteria pollutants, a major source of HAPs, and a major source of TAPs.

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Permitted limits for individual emissions units and groups of emissions units, if applicable, are set forth in the tables of the proposed permit entitled “Emission Rates for Criteria Pollutants” and “Emission Rates for TAP/HAP & Other Pollutants.” These tables are part of the permit.

Emissions calculations for the boilers related to the modification can be found in Exhibit 1 – Emission Calculations of the permit application. The calculations address if applicable (required) the manufacturer’s specifications, fuel composition (e.g., sulfur content), emissions factors, and other assumptions on which the emissions limitations are based and have been reviewed by the permit writer for accuracy.

General Condition XVII Activities

Very small emissions to the air resulting from routine operations that are predictable, expected, periodic, and quantifiable and that are submitted by the applicant and approved by the Air Permits Division are considered authorized discharges. These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. However, such emissions are considered when determining the facility’s potential to emit for evaluation of applicable requirements. Approved General Condition XVII activities are noted in Section VIII of the proposed permit.

None requested by Shell Norco Chemical Plant – East Site

Insignificant Activities

The emissions units or activities listed in Section IX of the proposed permit have been classified as insignificant pursuant to LAC 33:III.501.B.5. By such listing, the LDEQ exempts these sources or types of sources from the requirement to obtain a permit under LAC 33:III.Chapter 5. However, such emissions are considered when determining the facility’s potential to emit for evaluation of applicable requirements.

None requested by Shell Norco Chemical Plant – East Site

VIII. REGULATORY APPLICABILITY

Regulatory applicability is discussed in three sections of the proposed permit: Section X (Table 1), Section XI (Table 2), and Specific Requirements. Each is discussed in more detail below.

Section X (Table 1): Applicable Louisiana and Federal Air Quality Requirements

Section X (Table 1) summarizes all applicable federal and state regulations. In the matrix, a “1” represents a regulation applies to the emissions unit. A “1” is also used if the emissions unit is exempt from the emissions standards or control requirements of the regulation, but monitoring, recordkeeping, and/or reporting requirements apply.

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A “2” is used to note that the regulation has requirements that would apply to the emissions unit, but the unit is exempt from these requirements due to meeting a specific criterion, such as it has not been constructed, modified, or reconstructed since the regulation has been effective. If the specific criterion changes, the emissions unit will have to comply at a future date. Each “2” entry is explained in Section XI (Table 2).

A “3” signifies that the regulation applies to this general type of source (e.g., furnace, distillation column, boiler, fugitive emissions, etc.), but does not apply to the particular emissions unit. Each “3” entry is explained in Section XI (Table 2).

If blank, the regulation clearly does not apply to this type of emissions unit.

Section XI (Table 2): Explanation for Exemption Status or Non-Applicability of a Source

Section XI (Table 2) of the proposed permit provides explanation for either the exemption status or non-applicability of given federal or state regulation cited by 2 or 3 in the matrix presented in Section X (Table 1).

Specific Requirements

Applicable regulations, as well as any additional monitoring, recordkeeping, and reporting requirements necessary to demonstrate compliance with both the federal and state terms and conditions of the proposed permit, are provided in the “Specific Requirements” section. Any operating limitations (e.g., on hours of operation or throughput) are also set forth in this section. Associated with each Specific Requirement is a citation of the federal or state regulation upon which the authority to include that Specific Requirement is based.

1. Federal Regulations

40 CFR 60 – New Source Performance Standards (NSPS)

The following subparts are applicable at the Boilers East Unit: A, D, and NNN. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the “Specific Requirements” section of the proposed permit.

40 CFR 61 – National Emission Standards for Hazardous Air Pollutants (NESHAP)

The following subparts are applicable at the Boilers East Unit: A, M, and FF. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the “Specific Requirements” section of the proposed permit.

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40 CFR 63 – Maximum Achievable Control Technology (MACT)

The following subparts are applicable at the Boilers East Unit: A. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the “Specific Requirements” section of the proposed permit.

Clean Air Act §112(g) or §112(j) – Case-By-Case MACT Determinations

A case-by-case MACT determination pursuant to §112(g) or §112(j) of the Clean Air Act was not required.

40 CFR 64 – Compliance Assurance Monitoring (CAM)

Per 40 CFR 64.2(a), CAM applies to each pollutant-specific emissions unit (PSEU) that 1) is subject to an emission limitation or standard, 2) uses a control devices to achieve compliance, and 3) has potential pre-control device emissions that are equal to or greater than 100 percent of the amount, in TPY, required for a source to be classified as a major source.

The boilers do not use a control device to achieve compliance; therefore, CAM provisions do not apply.

Acid Rain Program

The Acid Rain Program, 40 CFR Part 72 – 78, applies to the fossil fuel-fired combustion devices listed in Tables 1-3 of 40 CFR 73.10 and other utility units, unless a unit is determined not to be an affected unit pursuant to 40 CFR 72.6(b). LDEQ has incorporated the Acid Rain Program by reference at LAC 33:III.505. Boilers East Unit is not subject to the Acid Rain Program.

2. SIP-Approved State Regulations

Applicable state regulations are also noted in Section X (Table 1) of the proposed permit. Some state regulations have been approved by the U.S. Environmental Protection Agency (EPA) as part of Louisiana’s State Implementation Plan (SIP). These regulations are referred to as “SIP-approved” and are enforceable by both LDEQ and EPA. All LAC 33:III.501.C.6 citations are federally enforceable unless otherwise noted.

3. State-Only Regulations

Individual chapters or sections of LAC 33:III noted by an asterisk in Section X (Table 1) are designated “state-only” pursuant to 40 CFR 70.6(b)(2). Terms and conditions of the proposed permit citing these chapters or sections are not SIP-approved and are not subject to the requirements of 40 CFR Part 70. These terms and conditions are enforceable by LDEQ, but not EPA. All conditions not designated as “state-only” are presumed to be federally enforceable.

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State MACT (LAC 33:III.Chapter 51)

Boiler East Unit is a part of a major source of LAC 33:III.Chapter 51 regulated TAP. The owner or operator of any major source that emits or is permitted to emit a Class I or Class II TAP at a rate equal to or greater than the Minimum Emission Rate (MER) listed for that pollutant in LAC 33:III.5112 shall control emissions of that TAP to a degree that constitutes Maximum Achievable Control Technology (MACT), except that compliance with an applicable federal standard promulgated by the U.S. EPA in 40 CFR Part 63 shall constitute compliance with MACT for emissions of toxic air pollutants. Applicable Part 63 standards are addressed in Section VIII.1 of this Statement of Basis. MACT is not required for Class III TAPs; however, the impact of all TAP emissions must be below their respective Ambient Air Standards (AAS).

MACT determinations were made pursuant to Chapter 51 for the following emissions units: Boilers 7, 8, 9, and 10. Exemptions from the State MACT requirements are cited in Section XI (Table 2) in the proposed permit.

IX. NEW SOURCE REVIEW (NSR)

1. Prevention of Significant Deterioration (PSD)

The facility's source category is listed in Table A of the definition of "major stationary source" in LAC 33:III.509. As such, the PSD major source threshold is 100 TPY (of any regulated NSR pollutant).

Boiler East Unit is a major stationary source under the PSD program, LAC 33:III.509. However, there are no physical changes or changes in the method of operation associated with this permit modification.

2. Nonattainment New Source Review (NNSR)

Boiler East Unit is located in an attainment area; therefore, NNSR does not apply.

3. Notification of Federal Land Manager

The Federal Land Manager (FLM) is responsible for evaluating a facility's projected impact on the Air Quality Related Values (AQRV) (e.g., visibility, sulfur and nitrogen deposition, any special considerations concerning sensitive resources, etc.³) and recommending that LDEQ either approve or disapprove the facility's permit application based on anticipated impacts. The FLM also may suggest changes or conditions on a permit. However, LDEQ makes the final decision on permit issuance. The FLM also advises reviewing agencies and permit applicants about other FLM concerns, identifies AQRV and assessment parameters for permit applicants, and makes ambient monitoring recommendations.

³ See <http://www2.nature.nps.gov/air/Permits/ARIS/AQRV.cfm>.

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If LDEQ receives a PSD or NNSR permit application for a facility that “may affect” a Class I area, the FLM charged with direct responsibility for managing these lands is notified.

The meaning of the term “may affect” is interpreted by EPA policy to include all major sources or major modifications which propose to locate within 100 kilometers (km) of a Class I area. However, if a major source proposing to locate at a distance greater than 100 km is of such size that LDEQ or the FLM is concerned about potential impacts on a Class I area, LDEQ can ask the applicant to perform an analysis of the source’s potential emissions impacts on the Class I area. This is because certain meteorological conditions, or the quantity or type of air emissions from large sources located further than 100 km, may cause adverse impacts. In order to determine whether a source located further than 100 km may affect a Class I area, LDEQ uses the Q/d approach.

Q/d refers to the ratio of the sum of the net emissions increase (in tons) of PM₁₀, SO₂, NO_x, and H₂SO₄ to the distance (in kilometers) of the facility from the nearest boundary of the Class I area.

$$Q/d = \frac{PM_{10(NEI)} + SO_{2(NEI)} + NO_{x(NEI)} + H_2SO_{4(NEI)}^4}{\text{Class I km}}$$

Where:

PM _{10(NEI)}	=	net emissions increase of PM ₁₀
SO _{2(NEI)}	=	net emissions increase of SO ₂
NO _{x(NEI)}	=	net emissions increase of NO _x
H ₂ SO _{4(NEI)}	=	net emissions increase of H ₂ SO ₄
Class I km	=	distance to nearest Class I area (in kilometers)

If Q/d ≥ 4, LDEQ will formally notify the FLM in accordance with LAC 33:III.504.E.1 / LAC 33:III.509.P.1.

In this instance,

$$Q/d = \frac{0 + 0 + 0 + 0}{80} = 0$$

Therefore, LDEQ has determined that the proposed project will not adversely impact visibility in Breton National Wildlife Refuge/Caney Creek Wilderness Area, the nearest Class I area.

⁴ If both NNSR and PSD review are required, the higher of the two “net emissions increase” values has been selected. The net emissions increase for NNSR and PSD purposes may be different due to differing contemporaneous periods. If the net emissions increase of any pollutant is negative, the value used in the equation has been set to zero. If the project did not trigger a netting analysis, LDEQ uses the project increase (see §504.A.3 (NNSR) and §509.A.4 (PSD)). In this case, the value will be less than the pollutant’s significance level.

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4. Reasonable Possibility

As previously mentioned, increases of PM/PM₁₀, SO₂, NO_x, CO, and VOC associated with the proposed project did not trigger PSD/NNSR review. Because the applicant elected to use “potential to emit” in lieu of “projected actual emissions” to determine the project increase, there is no “reasonable possibility” that the proposed project may result in a significant emissions increase.

X. ADDITIONAL MONITORING AND TESTING REQUIREMENTS

In addition to the monitoring and testing requirements set forth by applicable state and federal regulations (see Section VIII of this Statement of Basis), a number of “LAC 33:III.507.H.1.a” and/or “LAC 33:III.501.C.6” conditions may appear in the “Specific Requirements” section of the proposed permit. These conditions have been added where no applicable regulation exists or where an applicable regulation does not contain sufficient monitoring, recordkeeping, and/or reporting provisions to ensure compliance. LAC 33:III.507.H.1.a provisions, which may include recordkeeping requirements, are intended to fulfill Part 70 periodic monitoring obligations under 40 CFR 70.6(a)(3)(i)(B).

XI. OPERATIONAL FLEXIBILITY

Emissions Caps

An emissions cap is a permitting mechanism to limit allowable emissions of two or more emissions units below their collective potential to emit (PTE). The proposed permit does establish an emissions cap.

An emission CAP was established for SO₂ emissions from Boilers 8, 9, and 10 (Emission Points 4-76, 5-76, and 6-76) for ease of operational flexibility. A specific condition was incorporated in the proposed permit as shown below:

Permittee shall monitor the sulfur content of all the fuels being used in the boilers, Emission Points 4-76, 5-76, and 6-76. Based on the monitored sulfur content for the fuel and the related emission factor for the specific fuel the permittee shall calculate SO₂ emissions from each boiler. The calculated total overall SO₂ emissions from the boilers based on the sulfur content and the related emission factor shall not exceed 4250.79 tons per year. Emissions from these boilers shall be reported under an emission cap, Emission Point BE-CAP, by 31st of March for the preceding calendar year. The sulfur content of each fuel used and the calculated total SO₂ emissions for the individual boiler shall be recorded each month, as well as the sulfur content of each fuel used and the calculated total SO₂ emissions for the last twelve months. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. The calculated total SO₂ emissions (based on the sulfur content and related emission factor) above the maximum listed in this permit as referenced above for any

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twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the calculated total SO₂ emissions (based on the sulfur content) of the individual boilers and the total overall SO₂ emissions for the last twelve months shall be submitted to the Office of Environmental Compliance, Surveillance Division by March 31 for the preceding calendar year.

Permittee shall only fire Complex Fuel Gas and pitch received from the Olefins Plant. The pitch is also sold as Fuel Oil No. 6. Current analysis of the pitch will always be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division

Alternative Operating Scenarios

LAC 33:III.507.G.5 allows the owner or operator to operate under any operating scenario incorporated in the permit. Any reasonably anticipated alternative operating scenarios may be identified by the owner or operator through a permit application and included in the permit. The proposed permit does not include an alternative operating scenario

Streamlined Requirements

When applicable requirements overlap or conflict, the permitting authority may choose to include in the permit the requirement that is determined to be most stringent or protective as detailed in EPA's "White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program" (March 5, 1996). The overall objective is to determine the set of permit terms and conditions that will assure compliance with all applicable requirements for an emissions unit or group of emissions units so as to eliminate redundant or conflicting requirements. The proposed permit does not contain streamlined provisions.

XII. PERMIT SHIELD

A permit shield, as described in 40 CFR 70.6(f) and LAC 33:III.507.I, provides an "enforcement shield" which protects the facility from enforcement action for violations of applicable federal requirements. It is intended to protect the facility from liability for violations if the permit does not accurately reflect an applicable federal or federally enforceable requirement.

The proposed permit does not establish a permit shield.

XIII. IMPACTS ON AMBIENT AIR

Emissions associated with the proposed facility were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

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XIV. COMPLIANCE HISTORY AND CONSENT DECREES

The Boiler East Unit's compliance history can be found in Exhibit 2 – Compliance History of the permit application. It must be disclosed per LAC 33:III.517.E and 517.D.12, if applicable.

The Shell Norco Chemical Plant was issued a Notice of Potential Penalty (ENF No. AEPP030425), Notice of Corrected Violation (ENF No. AECV050105), a Settlement Agreement (ENF No. SAAWE060052), and a Compliance Order & Notice of Potential Penalty (ENF No. AECN070203) as of December 2, 2009. Details can be reviewed in the application as referenced above.

The aforementioned actions have been reviewed by department personnel. The appropriateness of a compliance schedule consistent with 40 CFR 70.5(c)(8)(iii)(C) and 70.6(c)(3). The proposed permit does not establish a compliance schedule.

XV. REQUIREMENTS THAT HAVE BEEN SATISFIED

The following state and/or federal obligations have been satisfied and are therefore not included as Specific Requirements.

In general all initial compliance tests have been satisfied by the facility. Other on going compliance requirements is included in the Specific Requirement Section of the proposed permit (See CRG001)

XVI. OTHER REQUIREMENTS

Executive Order No. BJ 2008-7 directs all state agencies to administer their regulatory practices, programs, contracts, grants, and all other functions vested in them in a manner consistent with Louisiana's Comprehensive Master Plan for a Sustainable Coast and public interest to the maximum extent possible. If a proposed facility or modification is located in the Coastal Zone, LDEQ requires the applicant to document whether or not a Coastal Use Permit is required, and if so, whether it has been obtained. Coastal Use Permits are issued by the Coastal Management Division of the Louisiana Department of Natural Resources (LDNR).

The facility is located in the Coastal Zone; and compliance with the Coastal Use Permit (Fastland) requirements exemption as per LAC 43:I.723.B.2.

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XVII. PUBLIC NOTICE/PUBLIC PARTICIPATION

Written comments, written requests for a public hearing, or written requests for notification of the final decision regarding this permit action may be submitted to:

Ms. Soumaya Ghosn
LDEQ, Public Participation Group
P.O. Box 4313
Baton Rouge, Louisiana 70821-4313

Written comments and/or written requests must be received prior to the deadline specified in the public notice. If LDEQ finds a significant degree of public interest, a public hearing will be held. All comments will be considered prior to a final permit decision.

LDEQ will send notification of the final permit decision to the applicant and to each person who has submitted written comments or a written request for notification of the final decision.

The permit application, proposed permit, and this Statement of Basis are available for review at LDEQ, Public Records Center, Room 127, 602 North 5th Street, Baton Rouge, Louisiana. Viewing hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday (except holidays). Additional copies may be viewed at the local library identified in the public notice. The available information can also be accessed electronically via LDEQ's Electronic Document Management System (EDMS) on LDEQ's public website, www.deq.louisiana.gov.

Inquiries or requests for additional information regarding this permit action should be directed to the contact identified on page 1 of this Statement of Basis.

Persons wishing to be included on the public notice mailing list or for other public participation-related questions should contact LDEQ's Public Participation Group at P.O. Box 4313, Baton Rouge, LA 70821-4313; by e-mail at maillistrequest@ldeq.org; or contact LDEQ's Customer Service Center at (225) 219-LDEQ (219-5337). Alternatively, individuals may elect to receive public notices via e-mail by subscribing to LDEQ's Public Notification List Service at http://www.doa.louisiana.gov/oes/listservpage/ldeq_pn_listserv.htm.

Permit public notices can be viewed at LDEQ's "Public Notices" webpage, <http://www.deq.louisiana.gov/apps/pubNotice/default.asp>. Electronic access to each proposed permit and Statement of Basis current on notice is also available on this page. General information related to public participation in permitting activities can be viewed at www.deq.louisiana.gov/portal/tabid/2198/Default.aspx.

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APPENDIX A - ACRONYMS

AAS	Ambient Air Standard (LAC 33:III.Chapter 51)
AP-42	EPA document number of the Compilation of Air Pollutant Emission Factors
BACT	Best Available Control Technology
BTU	British Thermal Units
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAM	Compliance Assurance Monitoring, 40 CFR 64
CEMS	Continuous Emission Monitoring System
CMS	Continuous Monitoring System
CO	Carbon monoxide
COMS	Continuous Opacity Monitoring System
CFR	Code of Federal Regulations
EI	Emissions Inventory (LAC 33:III.919)
EPA	(United States) Environmental Protection Agency
EQ	Emission Inventory Questionnaire
ERC	Emission Reduction Credit
FR	Federal Register or Fixed Roof
H ₂ S	Hydrogen sulfide
H ₂ SO ₄	Sulfuric acid
HAP	Hazardous Air Pollutants
Hg	Mercury
HON	Hazardous Organic NESHAP
IBR	Incorporation by Reference
LAER	Lowest Achievable Emission Rate
LDEQ	Louisiana Department of Environmental Quality
M	Thousand
MM	Million
MACT	Maximum Achievable Control Technology
MEK	Methyl ethyl ketone
MIK	Methyl isobutyl ketone
MSDS	Material Safety Data Sheet
MTBE	Methyl tert-butyl ether
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industrial Classification System (replacement to SIC)
NESHAP	National Emission Standards for Hazardous Air Pollutants
NMOC	Non-Methane Organic Compounds

APPENDIX A - ACRONYMS

STATEMENT OF BASIS

SHELL NORCO CHEMICAL PLANT – BOILERS EAST UNIT

SHELL CHEMICAL, L.P.

NORCO, ST. CHARLES PARISH, LOUISIANA

Agency Interest (AI) No. 26336

Activity No. PER20090010

Proposed Permit No. 2283-V3

NO _x	Nitrogen Oxides
NNSR	Nonattainment New Source Review
NSPS	New Source Performance Standards
NSR	New Source Review
OEA	LDEQ Office of Environmental Assessment
OEC	LDEQ Office of Environmental Compliance
OES	LDEQ Office of Environmental Services
PM	Particulate Matter
PM ₁₀	Particulate Matter less than 10 microns in nominal diameter
PM _{2.5}	Particulate Matter less than 2.5 microns in nominal diameter
ppm	parts per million
ppmv	parts per million by volume
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
RBLC	RACT-BACT-LAER Clearinghouse
RMP	Risk Management Plan (40 CFR 68)
SICC	Standard Industrial Classification Code
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SOCMI	Synthetic Organic Chemical Manufacturing Industry
TAP	Toxic Air Pollutants (LAC 33:III.Chapter 51)
TOC	Total Organic Compounds
TPY	Tons Per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
µg/m ³	Micrograms per Cubic Meter
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound
VOL	Volatile Organic Liquid
VRU	Vapor Recovery Unit

STATEMENT OF BASIS

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APPENDIX B – GLOSSARY

Best Available Control Technologies (BACT) – an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this Part (Part III) which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

CAM - Compliance Assurance Monitoring – A federal air regulation under 40 CFR Part 64.

Carbon Monoxide (CO) – (Carbon monoxide) a colorless, odorless gas produced by incomplete combustion of any carbonaceous (gasoline, natural gas, coal, oil, etc.) material.

Cooling Tower – A cooling system used in industry to cool hot water (by partial evaporation) before reusing it as a coolant.

Continuous Emission Monitoring System (CEMS) – The total combined equipment and systems required to continuously determine air contaminants and diluent gas concentrations and/or mass emission rate of a source effluent.

Cyclone – A control device that uses centrifugal force to separate particulate matter from the carrier gas stream.

Federally Enforceable Specific Condition – A federally enforceable specific condition written to limit the potential to Emit (PTE) of a source that is permanent, quantifiable, and practically enforceable. In order to meet these requirements, the draft permit containing the federally enforceable specific condition must be placed on public notice and include the following conditions:

- A clear statement of the operational limitation or condition which limits the source's potential to emit;
- Recordkeeping requirements related to the operational limitation or condition;
- A requirement that these records be made available for inspection by LDEQ personnel;
- A requirement to report for the previous calendar year.

Grandfathered Status – those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

APPENDIX B – GLOSSARY

STATEMENT OF BASIS

SHELL NORCO CHEMICAL PLANT – BOILERS EAST UNIT

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Lowest Achievable Emission Rate (LAER) – for any source, the more stringent rate of emissions based on the following:

- a. the most stringent emissions limitation that is contained in the implementation plan of any state for such class or category of major stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or
- b. the most stringent emissions limitation that is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified major stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.

NESHAP – National Emission Standards for Hazardous Air Pollutants – Air emission standards for specific types of facilities, as outlined in 40 CFR Parts 61 through 63.

Maximum Achievable Control Technology (MACT) – the maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

NSPS – New Source Performance Standards – Air emission standards for specific types of facilities, as outlined in 40 CFR Part 60.

New Source Review (NSR) – a preconstruction review and permitting program applicable to new or modified major stationary sources of criteria air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

Nonattainment New Source Review (NNSR) – a New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) set forth at 40 CFR Part 50. NNSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound – any compound of carbon and another element. Examples: methane (CH₄), ethane (C₂H₆), carbon disulfide (CS₂).

Part 70 Operating Permit – also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507.

STATEMENT OF BASIS

SHELL NORCO CHEMICAL PLANT – BOILERS EAST UNIT

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APPENDIX B – GLOSSARY

PM₁₀ – particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – a New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Selective Catalytic Reduction (SCR) – A non-combustion control technology that destroys NO_x by injecting a reducing agent (e.g., ammonia) into the flue gas that, in the presence of a catalyst (e.g., vanadium, titanium, or zeolite), converts NO_x into molecular nitrogen and water.

Sulfur Dioxide (SO₂) – An oxide of sulphur.

TAP – LDEQ acronym for toxic air pollutants regulated under LAC 33 Part III, Chapter 51, Tables 1 through 3.

“Top Down” Approach – An approach which requires use of the most stringent control technology found to be technically feasible and appropriate based on environmental, energy, economic, and cost impacts.

Title V permit – see Part 70 Operating Permit.

Volatile Organic Compound (VOC) – any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the Administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.